



MONTANA STATE HOSPITAL POLICY AND PROCEDURE

Safety Policy for the Radiology Department

Effective Date: March 15, 2017

Policy #: RD-09

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- I. PURPOSE:** To provide for patient and staff safety during radiologic procedures at Montana State Hospital (MSH). MSH is committed to an effective radiation protection program, to eliminate unnecessary exposures to radiation and to reduce all exposures to levels that **Are as Low As Reasonably Achievable (ALARA)**.
- II. POLICY:** It is the policy of the MSH radiology department to engage in a radiologic process which is safe for its patients and personnel.
- III. DEFINITIONS:**
 - A. Licensed Independent Practitioner (LIP): an active, provisional or part-time physician or APRN and/or CNS who attends to the care of the patients at MSH.
 - B. Radiation Safety Officer: radiologist certified by the American Board of Radiology having a current State of Montana Medical License and is under contract to provide radiology services to MSH.
- IV. RESPONSIBILITIES:**
 - A. All radiology personnel are responsible for ensuring adherence to the guidelines outlined in this policy.
- V. PROCEDURE:** The following precautions will be observed at all times:
 - A. The ALARA principle is implemented by a comprehensive radiation protection program that includes specific requirements and procedures, which include: training of all radiation users, safety in the use of ionizing radiation, regular surveys of work areas for contamination and exposure rates, monitoring of radiation exposure to all individuals exposed to radiation, investigations of all exposures that exceed predetermined levels and audits of the program by the Radiation Safety Officer.
 - B. Appropriate safety signage will be displayed in the radiology department service area.
 - C. Lead radiology aprons will be inspected and scanned yearly and replaced when indicated.
 - D. A fire extinguisher, which meets National Fire Protection Association code for fire extinguisher use and storage, will be readily accessible in the radiology room.
 - E. Film badges will be monitored in accordance with MSH policy RD-07, Radiology Exposure Badges.
 - F. During all x-ray procedures, operators and other staff shall be instructed to remain in a specified area during the exposure. No individuals except the patient being x-rayed shall be permitted to be exposed to useful beam or direct scatter radiation during the radiologic examination by the stationary x-ray system.

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- G. Gonad shielding of not less than 0.25mm lead equivalent shall be used for patients during x-ray procedures in which the gonad are in the useful beam, except for cases in which the gonad shielding would interfere with information needed to make a diagnosis.
- H. When a patient or cassette must be supported or held during a radiologic exposure:
 - 1. Mechanical holding devices shall be used whenever possible;
 - 2. An individual who must hold a patient or cassette will be provided with, and required to wear, protective gloves and an apron, which have lead equivalence of 0.5mm and 0.25mm to protect against useful beam and direct scatter radiation, respectively;
 - 3. NO individual shall be routinely used for holding patient or cassette during radiographic exposures. Individuals selected for holding shall NOT be a radiation worker.
 - 4. Holding of a patient or cassette shall be permitted only in a very unusual and rare situation.
- I. The useful beam shall be limited to the area of clinical interest or the image receptor, whichever is smaller. Proper collimation must be used at all times.
- J. The technique factors (kVp, MA, and Time) shall be those typical for the specified part of the human body being radiographed and shall be based on a measurement of the part. These techniques should be established so they provide the best possible x-ray image with minimum radiation exposure.
- K. The CR Radiographic Exposure Recommendations are pre-programed in the machine. For further Exposure Recommendations refer to CR Radiographic Exposure Recommendations Chart located on the wall of the x-ray booth.
- L. Individuals shall not be deliberately exposed for training, demonstration, or other non-healing art purposes.
- M. In radiography, neither the tube housing, the image receptor, nor the cone shall be held during an exposure. Operators and other staff shall be instructed to remain in a specified protected area during exposure.
- N. When a radiological study is ordered by the LIP for a female patient of child-bearing age, the LIP will determine the need for pregnancy testing and any necessary precautions; i.e., shielding of the lower abdomen and pelvic region.

VI. REFERENCES: None.

VII. COLLABORATED WITH: Limited Permit Radiology Technologist; Associate Director of Nursing; Medical Director; Registered Radiology Technologist; Radiologist; and MSH Safety Officer.

VIII. RESCISSIONS: None, new policy.

IX. DISTRIBUTION: All hospital policy manuals.

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Thomas Gray, M.D. Date
Medical Director